

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

VIKING TECHNOLOGIES, LLC,	§	
	§	
<i>Plaintiff,</i>	§	
	§	
v.	§	CIVIL ACTION NO. 2:20-CV-00357-JRG
	§	(LEAD CASE)
ASSURANT, INC., ET AL.	§	
	§	
<hr/>		
ASURION, LLC, ET AL.	§	CIVIL ACTION NO. 2:20-CV-00358-JRG
	§	(MEMBER CASE)
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CLOVER TECHNOLOGIES GROUP, LLC,	§	CIVIL ACTION NO. 4:21-CV-00474-JRG
ET AL.	§	(MEMBER CASE)
	§	
<i>Defendants.</i>	§	

**CLAIM CONSTRUCTION MEMORANDUM OPINION AND ORDER**

Before the Court is the opening claim construction brief of Viking Technologies, LLC (“Plaintiff”) (Dkt. No. 94), the responsive brief of Broadtech, LLC, CWork Solutions, LP, The Signal, L.P., Signal GP, LLC, MMI-CPR, LLC, Asurion, LLC, Clover Technologies Group, LLC, Clover Wireless, LLC, Valu Tech Outsourcing, LLC, Teleplan Holdings USA, Inc., Teleplan Service Logistics, Inc., and Teleplan Services Texas, Inc. (collectively “Defendants”)<sup>1</sup> (Dkt. No. 98), and Plaintiff’s reply brief (Dkt. No. 100). The Court held a hearing on the issues of claim construction and claim definiteness on June 15, 2021. (Dkt. No. 106). Having considered the arguments and evidence presented by the parties at the hearing and in their briefing, the Court now issues this Order and adopts the claim constructions stated herein.

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<sup>1</sup> Defendant uBreakiFix Co. signed the claim construction briefing but was dismissed before the claim construction hearing. (See Dkt. No. 102).

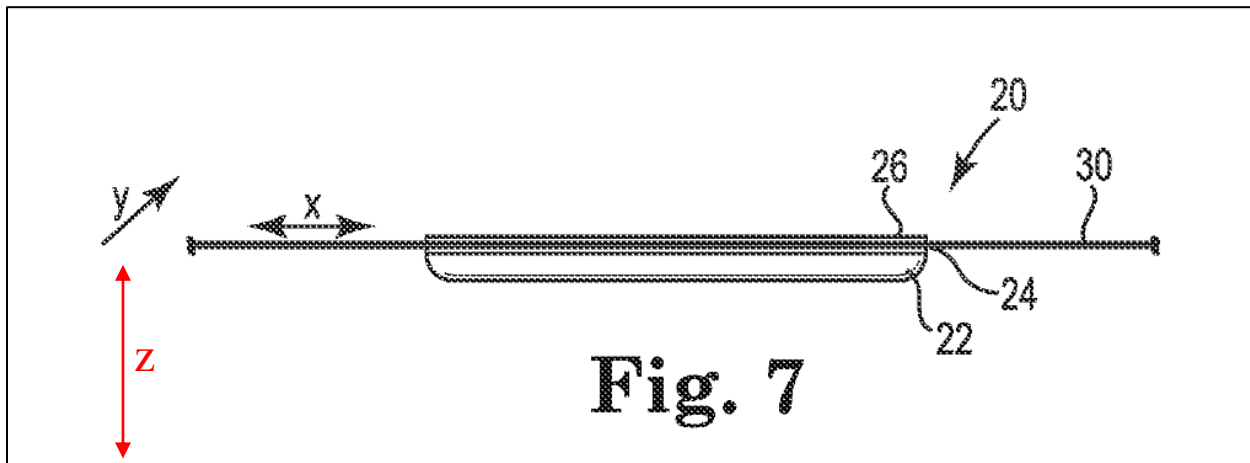
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## I. BACKGROUND

Plaintiff alleges infringement of two U.S. Patents: No. 8,888,953 (the “’953 Patent”) and No. 10,220,537 (the “’537 Patent”) (collectively, the “Asserted Patents”). The patents are related in that each claim priority to a provisional patent application filed on Oct. 17, 2012; the ’953 Patent issued from an application that is a continuation of the application that issued as the ’537 Patent. The patents share a substantially identical specification outside of the claim sets. Accordingly, the Court generally cites the ’537 Patent with the understanding that the same material is in the ’953 Patent.

In general, the Asserted Patents are directed to technology for replacing broken glass on devices such as mobile phones without damaging the electronic display underneath the glass. The technology can be generally understood with respect to Figure 7 (reproduced and annotated by the Court here). A display unit 20 (e.g., for a mobile phone) includes a glass layer 26 connected to an electronic display 22 through an intermediate layer 24. ’357 Patent fig.7, col.5 ll.45–61. A wire or other cutting device 30 is placed between the glass layer and the electronic display such that the portion of the wire between the glass and display is entirely within the intermediate layer. *Id.* at col.5 l.62 – col.6 l.9. The glass is removed from the display by moving the wire within the



intermediate layer along the y axis. The efficiency may be increased by also moving the wire in the x axis in a reciprocating or continuous motion. *Id.* at col.6 ll.32–42.

The abstracts of the Asserted Patents are identical and provide:

A method and apparatus for replacement of damage[d] display shield (typically glass) covering a display screen on a device, typically a mobile phone. Mobile phones have an electronic display protected by a glass shield. Between the glass and the display is often a plastic polarizing or other intermediary sheet. Removal of a damage glass can be accomplished by cutting thru [*sic*] the polarizer with a moving wire or blade. This separates the glass from the sensitive display and allows replacement of the glass without damaging the more expensive display.

Claim 1 of the '953 Patent and Claim 9 of the '537 Patent, exemplary asserted claims, recite as follows (with terms in dispute emphasized):

**'953 Patent Claim 1.** A method of removing a protective glass top surface from a display unit having a glass top, an electronic display portion, and an *intermediate layer* therebetween, the display unit defining an axis extending along said intermediate layer, the method comprising the steps of:

fixing the display unit in a carriage with the intermediate layer being exposed on all sides;

*aligning a cutting device in a coplanar relationship with the intermediate layer;*

*biasing the cutting device in the intermediate layer* adjacent the electronic display portion and away from the glass,

driving the cutting device into the intermediate layer while moving the cutting device and display unit relative to each other along a diagonal direction relative to said display unit axis;

advancing the cutting device into the intermediate layer to separate the glass top from the electronic display portion.

**'537 Patent Claim 9.** A method of separating a protective glass top surface from a display unit having a glass top, an electronic display portion, and a planar *intermediate layer* therebetween, method comprising the steps of:

fixing the display unit in a carriage with the intermediate layer being exposed on all sides;

*aligning a cutting wire in a coplanar relationship with the intermediate layer;*

*biasing the cutting wire in the intermediate layer* immediately adjacent the electronic display portion and away from the glass by locating the guide path of the wire below the display;

driving the cutting wire into the intermediate layer while moving it reciprocally therethrough so that the cutting device and display unit are moved relative to each other along an axis generally orthogonal to the cutting wire; and

advancing the cutting wire into the intermediate layer to separate the glass top from the electronic display portion.

## II. LEGAL PRINCIPLES

### A. Claim Construction

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. The general rule—subject to certain specific exceptions discussed *infra*—is that each claim term is construed according to its ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014) (“There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.”) (vacated on other grounds).

“The claim construction inquiry ... begins and ends in all cases with the actual words of the claim.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). “[I]n all aspects of claim construction, ‘the name of the game is the claim.’” *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (quoting *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998)). First, a term’s context in the asserted claim can be instructive. *Phillips*, 415 F.3d at

1314. Other asserted or unasserted claims can also aid in determining the claim’s meaning, because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. “[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

The prosecution history is another tool to supply the proper context for claim construction because, like the specification, the prosecution history provides evidence of how the U.S. Patent and Trademark Office (“PTO”) and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. However, “because the prosecution history represents an ongoing negotiation between the PTO

and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” *Id.* at 1318; *see also Athletic Alternatives, Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (ambiguous prosecution history may be “unhelpful as an interpretive resource”).

Although extrinsic evidence can also be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may also provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are not helpful to a court. *Id.* Extrinsic evidence is therefore “less reliable than the patent and its prosecution history in determining how to read claim terms.”

*Id.* The Supreme Court has explained the role of extrinsic evidence in claim construction:

In some cases, however, the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period. *See, e.g., Seymour v. Osborne*, 11 Wall. 516, 546 (1871) (a patent may be “so interspersed with technical terms and terms of art that the testimony of scientific witnesses is indispensable to a correct understanding of its meaning”). In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the “evidentiary underpinnings” of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.

*Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 331–32 (2015).

## **B. Departing from the Ordinary Meaning of a Claim Term**

There are “only two exceptions to [the] general rule” that claim terms are construed according to their plain and ordinary meaning: “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of the claim term either in the specification or during prosecution.”<sup>2</sup> *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1365 (Fed. Cir. 2014) (quoting *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)); *see also GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (“[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal.”). The standards for finding lexicography or disavowal are “exacting.” *GE Lighting Solutions*, 750 F.3d at 1309.

To act as his own lexicographer, the patentee must “clearly set forth a definition of the disputed claim term,” and “clearly express an intent to define the term.” *Id.* (quoting *Thorner*, 669 F.3d at 1365); *see also Renishaw*, 158 F.3d at 1249. The patentee’s lexicography must appear “with reasonable clarity, deliberateness, and precision.” *Renishaw*, 158 F.3d at 1249.

To disavow or disclaim the full scope of a claim term, the patentee’s statements in the specification or prosecution history must amount to a “clear and unmistakable” surrender. *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009); *see also Thorner*, 669 F.3d at 1366 (“The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.”). “Where an applicant’s statements are amenable

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<sup>2</sup> Some cases have characterized other principles of claim construction as “exceptions” to the general rule, such as the statutory requirement that a means-plus-function term is construed to cover the corresponding structure disclosed in the specification. *See, e.g., CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1367 (Fed. Cir. 2002).



to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.” *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

**C. Definiteness Under 35 U.S.C. § 112, ¶ 2 (pre-AIA) / § 112(b) (AIA)**

Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, must “inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). If it does not, the claim fails § 112, ¶ 2 and is therefore invalid as indefinite. *Id.* at 901. Whether a claim is indefinite is determined from the perspective of one of ordinary skill in the art as of the time the application for the patent was filed. *Id.* at 911. As it is a challenge to the validity of a patent, the failure of any claim in suit to comply with § 112 must be shown by clear and convincing evidence. *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1365 (Fed. Cir. 2017). “[I]ndefiniteness is a question of law and in effect part of claim construction.” *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012).

When a term of degree is used in a claim, “the court must determine whether the patent provides some standard for measuring that degree.” *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015) (quotation marks omitted). Likewise, when a subjective term is used in a claim, “the court must determine whether the patent’s specification supplies some standard for measuring the scope of the [term].” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1351 (Fed. Cir. 2005). The standard “must provide objective boundaries for those of skill in the art.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014).

### III. AGREED CONSTRUCTIONS

The parties have agreed to constructions set forth in their Patent Rule 4-5(d) Joint Claim Construction Chart (Dkt. No. 101). Based on the parties' agreement, the Court hereby adopts the agreed constructions.

### IV. CONSTRUCTION OF DISPUTED TERMS

#### A. "biasing the cutting device" and "biasing the cutting wire"<sup>3</sup>

Disputed Term <sup>4</sup>	Plaintiff's Proposed Construction	Defendant's Proposed Construction
"biasing the cutting device" <ul style="list-style-type: none"><li>• '953 Patent Claim 1</li><li>• '537 Patent Claim 1</li></ul>	applying a force to the cutting device	applying a force to the cutting device to hold it in a given position
"biasing the cutting wire" <ul style="list-style-type: none"><li>• '537 Patent Claim 9</li></ul>	applying a force to the cutting wire	applying a force to the cutting wire to hold it in a given position

Because the parties' arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

#### **The Parties' Positions**

Plaintiff submits: While biasing the cutting device or wire entails applying a force to the device or wire, this is not to hold it in a given position. Rather, the claims require moving the device or wire. Indeed, some claims explicitly state that the device moves during the biasing step

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<sup>3</sup> The parties list "biasing" and "biasing the cutting device/wire" in their briefs and P.R. 4-5(d) chart. (Dkt. No. 101-1 at 2). The claims at issue recite either "biasing the cutting device" or "biasing the cutting wire," with subsequent references to "biasing" referring back to the recited biasing of the device or wire.

<sup>4</sup> For all term charts in this order, the claims in which the term is found are listed with the term but: (1) only the highest-level claim in each dependency chain is listed, and (2) only asserted claims identified in the parties' Patent Rule 4-5(d) Joint Claim Construction Chart (Dkt. No. 101) are listed.

(citing '537 Patent Claim 8). Thus, it would be improper to construe the “biasing” terms to require the applied force to hold the device or wire in a given position. (Dkt. No. 94 at 9–11).

In addition to the claims themselves, Plaintiff cites the following **intrinsic evidence** to support its position: '537 Patent col.6 ll.32–42.

Defendants respond: As described in the Asserted Patents, biasing the cutting wire serves the purpose of holding it in position relative to the display as the wire moves through the intermediate layer. During prosecution of the '537 Patent, the applicant cited dictionary definitions to explain that biasing is meant to hold the wire in position. In fact, holding a component in a particular position is in the plain meaning of “bias.” This does not preclude motion of the wire or device in the x or y axes. The biasing term does not, however, encompass “fleeting or even inadvertent applications of force along the Z axis during the cutting process.” (Dkt. No. 98 at 12–16).

In addition to the claims themselves, Defendants cite the following intrinsic and extrinsic evidence to support their position: **Intrinsic evidence:** '537 Patent fig.7, col.3 ll.51–59, col.4 ll.19–23, col.6 ll.10–21; '537 Patent File Wrapper January 20, 2016 Brief for Appellant at 16–17 (Defendants' Ex. E, Dkt. No. 98-5 at 3–4), August 26, 2016 Office Action at 5 (Defendants' Ex. F, Dkt. No. 98-6 at 7), July 18, 2017 Examiner's Answer at 3 (Defendants' Ex. G, Dkt. No. 98-7 at 3), December 13, 2018 Decision on Appeal at 3 (Plaintiff's Ex. C, Dkt. No. 94-3 at 5). **Extrinsic evidence:** *McGraw-Hill Dictionary of Engineering* at 61 (2d ed. 2002), “bias” (Defendants' Ex. H, Dkt. No. 98-8 at 4); U.S. Patent Application Publication 2004/0123470 at ¶¶ [0012], [0017] (Defendants' Ex. I, Dkt. No. 98-9 at 3); U.S. Patent Application Publication 2012/0180602 at ¶ [0017] (Defendants' Ex. J, Dkt. No. 98-10 at 3).

Plaintiff replies: As Defendants recognize, the cutting wire or device moves position during biasing. Therefore, “biasing” cannot mean applying a force to hold the wire or device in a particular position. As described and claimed, the biasing may be generally along the z axis, which “would tend to move the wire/cutting device in the Z-direction.” Further, the patents describe and claim relative movement between the cutting wire or device and the display unit that is “generally orthogonal to the cutting device,” which would allow movement in the z direction. Finally, while biasing may be used in the art to hold something in position, holding something in position is not the defining attribute of “biasing.” (Dkt. No. 100 at 5–11).

Plaintiff cites further **intrinsic evidence** to support its position: ’537 Patent col.3 ll.55–59, col.4 ll.19–23, col.6 ll.10–18; ’537 Patent File Wrapper January 20, 2016 Brief for Appellant at 16–17 (Defendants’ Ex. E, Dkt. No. 98-5 at 3–4).

### **Analysis**

The issue in dispute distills to whether biasing the device or wire necessarily holds the device or wire at a constant proximity to the display. It does not.

To begin, “biasing” was not limited during prosecution of the ’537 Patent as Defendants contend. For example, the applicant represented as follows:

Thus, those of ordinary skill in the arts to which this application relates fully understand that the term “bias”, and its related words, includes ***the application of some force in the context of a machine and the mechanical manipulation of things***. The Office Action's statement in the passage bridging pages 16-17 (“ ... a biasing force, which is not currently claimed”), is therefore simply wrong.

(’537 Patent File Wrapper January 20, 2016 Brief for Appellant at 17 (emphasis added), Dkt. No. 98-5 at 4). In support of this statement, the applicant provided various dictionary definitions suggesting that “biasing” and “bias” refer to generating an inclination, such as a applying a “force ... to a relay to hold it in a given position,” “a small voltage to a (grid),” and “to apply a slight negative or positive voltage to (as a transistor).” While one offered dictionary definition noted a

purpose for applying a force (to hold a relay in a given position), that meaning was not common to all the definitions and was not expressly adopted by the applicant. Further, the examiner interpreted “biasing”

using the *customary and ordinary definition of the application of some force in the context of machine and mechanical manipulation of articles* or the definition in the on line dictionary of engineering: The force applied to a relay to hold it in a given position.

(*Id.* at July 18, 2017 Examiner’s Answer at 3 (emphasis added), Dkt. No. 98-7 at 3; *see also, id.* at August 26, 2016 Office Action at 5 (same), Dkt. No. 98-6 at 7). Thus, the examiner understood that the customary and ordinary meaning of “biasing” in the context of machine and mechanical manipulation of articles is “application of some force.” The examiner also recognized that “biasing” may—alternatively—refer to applying a force “to a relay to hold it in a given position.” Thus, the examiner did not limit “biasing” to require holding something in a given position but did understand that it required applying a force. The PTAB quoted the examiner’s understanding of the “customary and ordinary definition” and noted the “general agreement between the Examiner and the Appellant that ‘bias’ refers to force.” (*Id.* at December 13, 2018 Decision on Appeal at 3, Dkt. No. 94-3 at 5). Ultimately, the applicant did not clearly state that biasing requires holding the wire/device in a given position and neither the examiner nor the PTAB interpreted applicant’s position to be that the claimed biasing requires holding the wire/device in a given position. The prosecution history of record does not establish any lexicography or disavowal justifying Defendants’ construction. Rather, the applicant, the examiner, and the PTAB recognized and applied an ordinary and customary meaning of “biasing”: “applying a force.”

The use of “biasing” in the Asserted Patents is consistent with the term’s ordinary and customary meaning of “applying a force.” For instance, the patents provide that a “slight bias of the wire against the electronic display can be helpful in keeping it as far from the glass layer as

possible to prevent encountering/snagging of the glass layer.” (’537 Patent col.6 ll.18–21). This explains that applying a slight force on the wire against the display (and away from the glass layer) helps keep it from the glass layer. The claims include similar language indicating the bias is away from the glass. (*See e.g.*, ’537 Patent at col.9 ll.54–56 (“biasing the cutting device in the intermediate layer adjacent the electronic display portion and away from the glass”). This does not, however, require that biasing the wire will necessarily hold the wire’s position relative to the display. Biasing simply “can be helpful” for that purpose.

On balance, Defendants’ “to hold it in a given position” construction is not supported by the customary meaning of “biasing” and it is not mandated by the use of “biasing” in the Asserted Patents or during prosecution.

Accordingly, the Court construes these terms as follows:

- “biasing the cutting device” means “applying a force to the cutting device”; and
- “biasing the cutting wire” means “applying a force to the cutting wire.”

**B. “intermediate layer”**

<b>Disputed Term</b>	<b>Plaintiff’s Proposed Construction</b>	<b>Defendant’s Proposed Construction</b>
“intermediate layer” <ul style="list-style-type: none"> <li>• ’953 Patent Claim 1</li> <li>• ’537 Patent Claims 1, 9</li> </ul>	no construction necessary	the material between the upper and lower surfaces of the electronic display portion and the glass layer where the thickness of the layer is defined by the distance between those two surfaces

**The Parties’ Positions**

Plaintiff submits: The “intermediate layer” is defined in the claims themselves as the portion of the display unit that is between the glass top and display portion. This does not require

particular boundaries or orientation as Defendants suggest with their “upper and lower surfaces” proposal. (Dkt. No. 94 at 11–14).

In addition to the claims themselves, Plaintiff cites the following **intrinsic evidence** to support its position: ’537 Patent fig.7, col.3 ll.62–66, col.5 ll.53–59.

Defendants respond: The term “intermediate layer” is defined in the Asserted Patents as a layer “bounded by upper and lower interface planes which are adjacent the electronic display portion and the glass layer and distance between those planes is the thickness of the layer” (quoting ’537 Patent col.5 ll.50–56). The “upper” and “lower” aspects of the intermediate layer are independent of the orientation of the unit. Notably, the “intermediate layer” is everything between the glass and the display, and this layer has a thickness and therefore “cannot be a single plane.” (Dkt. No. 98 at 18–20).

In addition to the claims themselves, Defendants cite the following **intrinsic evidence** to support their position: ’537 Patent col.1 ll.53–55, col.3 ll.45–46, col.5 ll.45–59, col.6 ll.4–9, col.6 ll.21–25, col.8 ll.44–48.

Plaintiff replies: The “intermediate layer” is not defined in the patent. The language identified by Defendants is used to describe an exemplary embodiment rather than to define the invention. Further, Defendants’ proposed construction is not helpful to the jury because the claim language plainly defines the intermediate layer as between the glass top and the display portion and the layer plainly has a thickness. (Dkt. No. 100 at 11–12).

Plaintiff cites further **intrinsic evidence** to support its position: ’537 Patent col.5 ll.45–56.

### **Analysis**

The issue in dispute appears to be whether the intermediate layer is necessarily defined by the facing surfaces of the glass and electronic display portion of the display unit. It is.

The meaning of “intermediate layer” is largely apparent from the claim language itself. Specifically, Claim 1 of the ’953 Patent provides: “a display unit having a glass top, an electronic display portion, and an intermediate layer therebetween.” (’953 Patent Certificate of Correction (Claim 1)). Claims 1 and 9 of the ’537 Patent provide: “a display unit having a glass top, an electronic display portion, and a planar intermediate layer therebetween.” (’537 Patent col.9 ll.46–48, col.10 ll.34–35). Thus, the claims state that intermediate layer is between the glass top and the electronic display portion, but they do not state if everything between the glass top and the electronic display portion is the “intermediate layer.”

The Asserted Patents explain that the intermediate layer is the entire space between the glass top and the electronic display portion. Specifically, the patents provide:

As shown in FIG. 7, a mobile device 20, such as a cell/mobile phone generally use a sandwich structure of a first “glass” protective layer 26, an intermediary layer 24, which can be a transparent tape adhesive, a liquid adhesive, a plastic polarizer layer or other bonding layer and then an electronic display portion 22. ***Regardless of the nature of the intermediate layer, it has a particular thickness which can be utilized in the inventive concepts disclosed herein. The intermediate layer is bounded by upper and lower interface planes which are adjacent the electronic display portion and the glass layer and distance between those planes is the thickness of the layer.*** Upper and lower are terms which can be interchangeable because the glass layer can be on the top or bottom depending on the configuration of the method or machine. When assembled, this structure appears unitary and attempts to pry the glass layer from the electronic display will almost certainly destroy the electronic display.

(’537 Patent col.5 ll.45–61 (emphasis added)). This describes that the “intermediate layer” may include multiple layers and that the entire space between the glass top and the electronic display portion is the “intermediate layer” and that this is true “[r]egardless of the nature of the intermediate layer.” The Court understands this passage as definitional. It explains that *all* intermediate layers—regardless of their nature—have a thickness defined by the distance between the defining surfaces of the glass top and electronic display portion. This is not simply exemplary.

Accordingly, the Court construes this term as follows:



- “intermediate layer” means “a layer bounded by upper and lower interface planes which are adjacent the electronic display portion and the glass layer.”

**C. “in the intermediate layer”**

<b>Disputed Term</b>	<b>Plaintiff’s Proposed Construction</b>	<b>Defendant’s Proposed Construction</b>
“in the intermediate layer” <ul style="list-style-type: none"> <li>• ’953 Patent Claim 1</li> <li>• ’537 Patent Claims 1, 9</li> </ul>	no construction necessary	after the cutting device/wire enters the intermediate layer

**The Parties’ Positions**

Plaintiff submits: The plain meaning of the claim language, in context of the surrounding claim language, is that “a force is applied to the cutting device when it is ‘in the intermediate layer,’ i.e. when the cutting device is between the glass and the electronic display portion.” The term at issue is about location, not timing, though “[i]t is unclear how biasing can possibly be performed ‘in the intermediate layer’ if the ‘cutting device/wire’ has not entered the intermediate layer.” During prosecution of the ’537 Patent, the applicant explained that the claimed “biasing cannot occur ‘in the intermediate layer,’ if the cutting device has not entered the intermediate layer,” and distinguished the claimed biasing from biasing that occurs next to the intermediate layer, before the device enters the intermediate layer. This does not, however, justify construing the plain term “in the intermediate layer” to include a temporal limitation. (Dkt. No. 94 at 14–16).

In addition to the claims themselves, Plaintiff cites the following **intrinsic evidence** to support its position: ’537 Patent File Wrapper October 2, 2016 Reply Brief at 6, 9 (Plaintiff’s Ex. D, Dkt. No. 94-4 at 7, 10), December 13, 2018 Decision on Appeal at 5 (Plaintiff’s Ex. C, Dkt. No. 94-3 at 7).

Defendants respond: Plaintiff appears to agree that the cutting device or wire must enter the intermediate layer before biasing the device or wire “in the intermediate layer.” Thus, the

biasing “in the intermediate layer” happens after the device or wire enters the intermediate layer. In fact, the applicant made this distinction over the prior art during prosecution of the ’537 Patent. (Dkt. No. 98 at 16–18).

In addition to the claims themselves, Defendants cite the following **intrinsic evidence** to support their position: ’537 Patent File Wrapper October 2, 2016 Reply Brief at 9 (Plaintiff’s Ex. D, Dkt. No. 94-4 at 10), December 13, 2018 Decision on Appeal at 4–6 (Plaintiff’s Ex. C, Dkt. No. 94-3 at 6–8).

Plaintiff replies: The meaning of the claim language is clear without construction. It is directed to where the biasing occurs rather than when the biasing occurs. “[A]s a practical matter the cutting device/wire enters the intermediate layer before it is ‘in the intermediate layer.’ However, the phrase ‘in the intermediate layer’ does not mean ‘after the cutting device/wire enters the intermediate layer.’” (Dkt. No. 100 at 13).

### **Analysis**

The issue in dispute appears to be whether the claim language should be rewritten to clarify that “biasing the cutting device [or wire] in the intermediate layer” requires that the cutting device or wire actually be in the intermediate layer. It should not, as the meaning of this term is clear without construction.

The claims express biasing the device or wire “in the intermediate layer.” The Court understands that this encompasses the situation when any portion of the device or wire is in the intermediate later. Defendants’ proposed construction does not clarify anything. Rather, it injects a number of potential points of confusion. For example, it may suggest a claim step of the device or wire entering the intermediate layer; the claims as written do not express any such limitation. Further, Defendants’ proposed construction may suggest that biasing may not happen as the cutting

device or wire is in the intermediate layer but continues further into the layer. Finally, Defendants seem to argue that biasing can occur only after the device or wire enters the intermediate layer. (Dkt. No. 98 at 17 (“biasing can only occur when the cutting device is between the glass and the electronic display portion” (quotation marks and emphasis omitted)), *id.* at 17–18 (“biasing can occur only once the cutting device is in the intermediate layer”)). It is not clear if Defendants are attempting to read a negative limitation into the claims. The Court notes, however, that the claims are open-ended “comprising” claims and there is no reason to preclude biasing outside the intermediate layer (though such biasing would not itself meet the claim step unless biasing also occurs “in the intermediate layer”).

Accordingly, the Court rejects Defendants’ proposed construction and determines that this term has its plain and ordinary meaning without the need for further construction.

**D. “coplanar” and “aligning a cutting device in a coplanar relationship with the intermediate layer,” and “aligning a cutting wire in a coplanar relationship with the intermediate layer”<sup>5</sup>**

<b>Disputed Term</b>	<b>Plaintiff’s Proposed Construction</b>	<b>Defendant’s Proposed Construction</b>
“coplanar” <ul style="list-style-type: none"> <li>• ’953 Patent Claim 1</li> <li>• ’537 Patent Claims 1, 9</li> </ul>	in a same plane	in the same plane
“aligning a cutting device in a coplanar relationship with the intermediate layer” <ul style="list-style-type: none"> <li>• ’953 Patent Claim 1</li> <li>• ’537 Patent Claims 1, 9</li> </ul>	no construction necessary apart from “coplanar”	indefinite

<sup>5</sup> The parties identify “aligning a cutting device/wire in a coplanar relationship with the intermediate layer” in their in their briefs and P.R. 4-5(d) chart. (Dkt. No. 101-1 at 4). The claims at issue recite either “aligning a cutting device in a coplanar relationship with the intermediate layer” or “aligning a cutting wire in a coplanar relationship with the intermediate layer.”

<b>Disputed Term</b>	<b>Plaintiff's Proposed Construction</b>	<b>Defendant's Proposed Construction</b>
“aligning a cutting wire in a coplanar relationship with the intermediate layer” <ul style="list-style-type: none"> <li>• ’537 Patent Claim 9</li> </ul>	no construction necessary apart from “coplanar”	indefinite

Because the parties’ arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

### **The Parties’ Positions**

Plaintiff submits: As described in the Asserted Patents, the “intermediate layer” “may have multiple available planes to be shared with the available planes of the wire.” Thus, a cutting wire or device having a boundary plane that is aligned with any of the planes of the intermediate layer is in a coplanar relationship with the intermediate plane. This coplanarity is accomplished by “placing a wire into the intermediate layer, i.e., anywhere between the two boundary planes of the intermediate layer.” “[A]s long as the cutting device remains within the intermediate layer, the cutting device and the intermediate layer will be in a coplanar relationship.” (Dkt. No. 94 at 16–21).

In addition to the claims themselves, Plaintiff cites the following **intrinsic evidence** to support its position: ’537 Patent fig.7, col.5 ll.52–55, col.5 ll.62–66, col.6 ll.15–21, col.6 ll.26–34.

Defendants respond: “[T]he plain meaning of ‘coplanar’ means that the wire—to the extent a wire can be one dimensional—must be in ‘the’ same (i.e., one) plane of the intermediate layer.” “Given that a ‘plane’ is a flat two-dimensional construct ... and both the cutting device and intermediate layer are three-dimensional objects, it is technically impossible to align the cutting device and the intermediate layer in a ‘coplanar’ relationship.” Thus, these terms render the claims indefinite. (Dkt. No. 98 at 20–25).

In addition to the claims themselves, Defendants cite the following intrinsic and extrinsic evidence to support their position: **Intrinsic evidence:** '537 Patent fig.7, col.1 ll.53–55, col.3 ll.45–46, col.4 ll.26–28, col.5 ll.51–52, col.6 ll.4–5, col.6 ll.10–18, col.6 ll.26–31, col.8 ll.44–45, col.8 ll.65–67; '537 Patent File Wrapper October 2, 2016 Reply Brief at 5, 7 (Plaintiff's Ex. D, Dkt. No. 94-4 at 6, 8). **Extrinsic evidence:** *Facts on File Geometry Handbook* at 42, 139 (Revised ed. 2009), “coplanar” and “plane” (Defendants' Ex. L, Dkt. No. 98-12 at 4–5); *McGraw-Hill Dictionary of Engineering* at 128 (2d ed. 2002), “coplanar” (Defendants' Ex. H, Dkt. No. 98-8 at 5).

Plaintiff replies: In the context of the Asserted Patents, which describe and are directed to real-world, three-dimensional objects, “coplanar” is not strictly used according to some strict geometry-class sense which would exclude any relationship between three-dimensional objects. Indeed, courts routinely interpret “coplanar” in patent claims to apply to three-dimensional objects. In the context of the patents, a wire is in a “coplanar relationship” with the intermediate layer when it “shar[es] a plane with the intermediate layer, when the wire is between the upper and lower planes of the intermediate layer.” (Dkt. No. 100 at 13–18).

Plaintiff cites further **intrinsic evidence** to support its position: '537 Patent col.1 ll.51–55.

### **Analysis**

The issues in dispute distill to whether aligning a cutting device or wire “in a coplanar relationship with the intermediate layer” impossibly requires that the three-dimensional device/wire and the three-dimensional intermediate layer each lie in the same two-dimensional plane. It does not.

Defendants' argument fails as it is improperly premised on a hypertechnical understanding of “planar” and “coplanar” that contradicts the use of those terms in the Asserted Patents. Notably, Defendants rely on definitions from a geometry dictionary to limit “coplanar” to exclude a

relationship between three-dimensional objects. This dictionary defines “planar” as “[l]ying in a plane,” “plane” as “[a] flat two-dimensional space,” and “coplanar” as “[l]ying on a common plane, said of points, lines, or planar figures.” (*Facts on File Geometry Handbook* at 42, 139 (Revised ed. 2009), Dkt. No. 98-12 at 4–5). As Defendants suggest, this indicates that something that is planar is restricted to a two-dimensional space and that in order for multiple things to be coplanar, they must each be restricted to a two-dimensional space. The Asserted Patents, however, use “planar” to refer to three-dimensional objects. For instance, the patents describe a cutting device that is “a planar blade whose planar location is adjustable to match the plane in which the intermediate layer resides.” (’537 Patent col.2 ll.61–63; *see also, id.* at col.8 ll.19–21). This “[b]lade 260 is preferably a thin planar blade of thickness less than that of the intermediate layer.” (*Id.* at col.8 ll.19–34). “Planar” is clearly and unequivocally used in the patents to refer to things—blades and layers—that are not limited to two dimensions. Indeed, the claims of the ’537 Patent refer to a “planar intermediate layer,” which is three-dimensional. (*Id.* at col.9 ll.46–48, col.10 ll.33–36).

Ultimately, “planar” in the patents is not used according to the strict geometry definition advocated by Defendants. Rather, “planar” refers to something relating to geometric planes, such as objects, including three-dimensional objects, defined (at least in part) by geometric planes. In this context, a “coplanar relationship” between three-dimensional objects is reasonably understood to refer to those objects sharing a common plane. It would be unreasonable in this context to interpret the terms using two-dimensional restrictions taken from a strict geometry definition.

Accordingly, Defendants have failed to prove any claim is indefinite for including a “coplanar relationship” term. The Court further addresses these terms by construing “coplanar

relationship” as follows and holding that the “aligning ...” terms otherwise have their plain and ordinary meanings:

- “coplanar relationship” means “sharing a common plane.”

## V. CONCLUSION

The Court adopts the constructions set forth above, as summarized in the following table. The parties are **ORDERED** that they may not refer, directly or indirectly, to each other’s claim-construction positions in the presence of the jury. Likewise, the parties are **ORDERED** to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim-construction proceedings is limited to informing the jury of the definitions adopted by the Court.

The parties are hereby **ORDERED** to file a Joint Notice within fourteen (14) days of the issuance of this Memorandum Opinion and Order indicating whether the case should be referred for mediation. If the Parties disagree about whether mediation is appropriate, the Parties should set forth a brief statement of their competing positions in the Joint Notice.

Section	Term	Construction
A	“biasing the cutting device” <ul style="list-style-type: none"><li>• ’953 Patent Claim 1</li><li>• ’537 Patent Claim 1</li></ul>	applying a force to the cutting device
	“biasing the cutting wire” <ul style="list-style-type: none"><li>• ’537 Patent Claim 9</li></ul>	applying a force to the cutting wire
B	“intermediate layer” <ul style="list-style-type: none"><li>• ’953 Patent Claim 1</li><li>• ’537 Patent Claims 1, 9</li></ul>	a layer bounded by upper and lower interface planes which are adjacent the electronic display portion and the glass top

Section	Term	Construction
C	“in the intermediate layer”	plain and ordinary meaning
	<ul style="list-style-type: none"> <li>• ’953 Patent Claim 1</li> <li>• ’537 Patent Claims 1, 9</li> </ul>	
D	“coplanar relationship”	sharing a common plane
	<ul style="list-style-type: none"> <li>• ’953 Patent Claim 1</li> <li>• ’537 Patent Claims 1, 9</li> </ul>	
	“aligning a cutting device in a coplanar relationship with the intermediate layer” <ul style="list-style-type: none"> <li>• ’953 Patent Claim 1</li> <li>• ’537 Patent Claims 1, 9</li> </ul>	plain and ordinary meaning
	“aligning a cutting wire in a coplanar relationship with the intermediate layer” <ul style="list-style-type: none"> <li>• ’537 Patent Claim 9</li> </ul>	plain and ordinary meaning

**So ORDERED and SIGNED this 25th day of June, 2021.**

  
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 RODNEY GILSTRAP  
 UNITED STATES DISTRICT JUDGE